

CLAIMS

What is claimed is:

- 1 1. An electronic circuit package comprising:
 - 2 at least one non-insertable feature at a first surface of the electronic circuit
 - 3 package; and
 - 4 at least one insertable feature extending perpendicularly from the first surface.
- 1 2. The electronic circuit package as claimed in claim 1, wherein the electronic
- 2 circuit package comprises an integrated circuit package.
- 1 3. The electronic circuit package as claimed in claim 1, wherein the at least one non-
- 2 insertable feature includes a land grid array land.
- 1 4. The electronic circuit package as claimed in claim 1, wherein the at least one
- 2 insertable feature includes a pin.
- 1 5. The electronic circuit package as claimed in claim 1, wherein the at least one
- 2 insertable feature includes a low insertion force feature.
- 1 6. The electronic circuit package as claimed in claim 1, wherein a total feature count
- 2 is greater than 400 features, and the total feature count is a sum of a first number of non-
- 3 insertable features and a second number of insertable features.
- 1 7. The electronic circuit package as claimed in claim 1, wherein the at least one non-
- 2 insertable feature is coupled to circuits that use or produce input/output signals, and the at
- 3 least one insertable feature is electrically coupled to circuits that consume power or
- 4 require ground connection.
- 1 8. A receptacle comprising:

2 at least one non-insertable contact at a first surface of the receptacle; and
3 at least one insertable contact having an opening on the first surface,
4 wherein the at least one non-insertable contact and the at least one insertable
5 contact are arranged to make electrical contact with non-insertable features and insertable
6 features of a single electronic circuit package brought into contact with the receptacle.

1 9. The receptacle as claimed in claim 8, wherein the receptacle comprises a socket.

1 10. The receptacle as claimed in claim 8, wherein the receptacle comprises a printed
2 circuit board.

1 11. The receptacle as claimed in claim 8, wherein the at least one non-insertable
2 contact includes a land grid array contact.

1 12. The receptacle as claimed in claim 8, wherein the at least one insertable contact
2 includes a pin contact.

1 13. The receptacle as claimed in claim 8, wherein the at least one insertable contact
2 includes a low insertion force contact.

1 14. A method comprising:
2 forming one or more non-insertable features at a first surface of an electronic
3 circuit package; and
4 attaching one or more insertable features perpendicularly from the first surface.

1 15. The method of claim 14, wherein forming the one or more non-insertable features
2 comprises forming one or more lands.

1 16. The method of claim 14, wherein attaching the one or more insertable features
2 comprises attaching one or more low insertion force contacts.

1 17. A method for fabricating a receptacle for accepting a single electronic circuit
2 package, the method comprising:

3 forming one or more non-insertable contacts at a first surface of the receptacle;

4 and

5 forming one or more insertable contacts having openings at the first surface.

1 18. The method of claim 17, wherein forming the one or more non-insertable contacts
2 comprises forming one or more land grid array contacts.

1 19. The method of claim 17, wherein forming the one or more insertable contacts
2 comprises forming one or more low insertion force contacts.

1 20. A method comprising:

2 aligning an electronic circuit package with a receptacle, wherein the electronic
3 circuit package comprises at least one non-insertable feature at a first package surface,
4 and at least one insertable feature extending perpendicularly from the first package
5 surface, and wherein the receptacle comprises at least one non-insertable contact at a first
6 receptacle surface, and at least one insertable contact having an opening on the first
7 receptacle surface; and

8 joining the electronic circuit package and the receptacle by inserting the at least
9 one insertable feature into the at least one insertable contact.

1 21. The method of claim 20, further comprising applying a sustained, vertical,
2 compressive force to compress the at least one non-insertable feature toward the at least
3 one non-insertable contact.

1 22. The method of claim 20, further comprising applying a sustained, normal force to
2 compress the at least one insertable feature toward a conductive surface within the at least
3 one insertable contact.

1 23. The method of claim 22, wherein applying the sustained, normal force comprises
2 engaging a low insertion force mechanism.

1 24. A method comprising:

2 interchanging input/output signals between first electronic circuits, which use or
3 produce the input/output signals, and one or more non-insertable features at a first surface
4 of an electronic circuit package; and

5 interchanging power between second electronic circuits, which consume the
6 power, and one or more insertable features at the first surface, wherein the electronic
7 circuit package houses the first electronic circuits and the second electronic circuits.

1 25. The method of claim 24, wherein interchanging the input/output signals
2 comprises interchanging the input/output signals between the first electronic circuits and
3 one or more land grid array lands.

1 26. The method of claim 24, wherein interchanging the power comprises
2 interchanging the power between the second electronic circuits and one or more low
3 insertion force features.

1 27. An electronic system comprising:

2 an electronic circuit package having at least one non-insertable feature at a first
3 surface of the package, and at least one insertable feature extending perpendicularly from
4 the first surface;

5 a receptacle, coupled to the electronic circuit package, and having at least one
6 non-insertable contact and at least one insertable contact, wherein when the electronic
7 circuit package is joined with the receptacle, the at least one non-insertable contact makes
8 conductive contact with the at least one non-insertable feature, and the at least one
9 insertable contact accepts the at least one insertable feature;

10 one or more integrated circuits located on the electronic circuit package; and
11 a display coupled to the electronic circuit package.

1 28. The electronic system as claimed in claim 27, further comprising a device to
2 apply a sustained, vertical, compressive force to increase a contact pressure between the
3 at least one non-insertable feature and the at least one non-insertable contact.

1 29. The electronic system as claimed in claim 27, further comprising a device to
2 apply a sustained, normal force to increase a contact pressure between the at least one
3 insertable feature and the at least one insertable contact.

1 30. The electronic system as claimed in claim 27, wherein the electronic system
2 comprises a server computer.